

# PATHFINDER

**VOL 8 ISSUE 4**

**OCTOBER 2001**

An informal newsletter produced for the GPS user community by Army PM GPS, Fort Monmouth, NJ. Information presented is based on published and submitted news items of interest to the general user. Widest dissemination and reproduction is encouraged.

The PATHFINDER can be found online at the PM GPS web page: <http://army-gps.robins.af.mil>

## PM's Corner

### Hello GPS Users!

Knowing your precise current location and being ready to navigate to another location is critical to virtually every Army mission. Make sure your PPS-rated PLGR is ready to go. See the checklist in this issue.

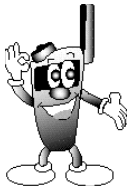
New PLGR are not available in government depots but supply and maintenance systems are in place to support your on-hand equipment. Our engineers are familiar with vehicle installations. Weapon system managers like Paladin, Patriot, Bradley and FBCB2 have information about installing and operating PLGR in their systems. So

while you are obliged to keep your equipment mission ready, you are not alone. Whether your PLGR is handheld, mounted in a vehicle or integrated to a weapons system, if you need assistance, ask for it. If your local maintenance or supply shop cannot answer a question, contact your CECOM LAO or my staff.

Last but not least I welcome Major Keith Hirschman to the Army GPS team. Keith is managing the DAGR and TIGR products, see his article in this issue.

As always, I invite you to contact me via the California office!

LTC Eveland



## **Update on the PLGR Depot Maintenance Program**

In the July 2001 issue we reported on a change coming to the PLGR depot maintenance program. The "good news" is that warranty repairs will not change. The "bad news" is that there are insufficient funds to automatically repair Army-owned PLGR when damages are categorized as exclusions-to-warranty coverage.

Army Headquarters has mandated a priority repair process for exclusion-to-warranty repairs. The process will be in place by the time you read this article.

What does that mean to you? Well, the process for turning a PLGR in for repair is the same and if repairs are covered by the warranty, there is no change! The change occurs if your PLGR is deemed an exclusion-to-warranty: Your PLGR may be placed into deferred maintenance and you will receive a letter instructing you to take the PLGR off your property books and to submit a requisition for replacement to CECOM (with a Project Code and a sequence number that we will provide to you). However CECOM does not have PLGR available to fill these requisitions. You will only get a replacement PLGR if and when deferred maintenance funding is obtained. Not all PLGRs will go into deferred maintenance because some units have been designated as priority units and they will continue to receive replacement PLGRs even for exclusion-to-warranty damages. How do I tell if I am a priority unit? You will not know until you send your PLGR in for repair. Why can't someone tell me? Because the list will be continually monitored and updated. In general, if you are a Transformation Unit, or two years prior to being eligible for transformation then

you qualify for priority repair. Remember, this limited repair situation only applies to Army-owned PLGRs.

Also, remember that the USAF and Army warranty dates have been extended, so disregard any expired warranty dates on your PLGRs.

New Jersey office

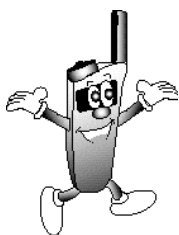
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## **DAGR update**

The Defense Advanced GPS Receiver (DAGR) is the planned replacement for the PLGR. Within a few years, the DAGR will take over as the Army's primary GPS receiver for handheld, vehicle-mounted and weapons system integrated applications. As your new DAGR product manager, I am guiding the DAGR through a competitive development and acquisition process. My goal is to make it the best possible next-generation GPS receiver. While the DAGR will be interchangeable with PLGR in current PLGR applications, it will incorporate a lot of technical improvements and should be easier to operate.

A second new handheld receiver is being developed: Called the Tactical Individual GPS Receiver (TIGR), this "bare bones" version of the DAGR will crank out just your basic Position Velocity Timing (PVT) data from a smaller pocket-sized set that still incorporates DAGR technology and full military PPS capabilities. If you have a question about either the DAGR or TIGR programs, contact me at the Army GPS office in Los Angeles.

Los Angeles Office



## PLGR Installations

We've learned of field expedient efforts to modify the PLGR mount used in Paladin and FAASV armored vehicles. Not too long ago, PM Paladin modified these mounts to eliminate damage to weapon system computers that resulted when serial port and power cable connections were not made in the correct order. The "fix" was intended to prevent power being applied to PLGR until all other external cables were connected. However, some users found that the modified mount resulted in intermittent power for PLGR and they used duct tape to bypass the PM Paladin modification. This is a bad move because it makes the system computer vulnerable to the original problem.

Now that we know about the problem, PM GPS is working with weapon system engineers to develop a fix to accomplish the goals of safeguarding the system computer and maintaining good PLGR mount connections. We'll report their progress in the next issue!

If you are having trouble with the standard PLGR vehicle mount, seek assistance from your maintenance shop, DSU or CECOM LAO.

If you need assistance with the Paladin or FAASV modified mounts, contact Mr. Fred Gloeckler at Project Manager Paladin: DSN 328-6799 ext \*2527

Georgia Field Office

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## The PLGR TECHNICAL MANUAL Has Been Revised!

TM 11-5825-291-13, dated 1 April 2001, has been updated. Many of the changes were recommended by field users. A new index makes it easier to find information more quickly. Here's an outline of where changes were made:

page xxviii	Added the PM GPS Web site address.
page xxxii	General Safety Precautions (updated)
Chapter 1	GPS Overview ( includes installation procedures for the external power cable)
Chapter 2	Keypad Operation (reformatted)
Chapter 3	Pre-Mission Operation Check (reformatted)
Chapter 4	Mission Operations (reformatted)
Chapter 5	Post-Mission Operations (reformatted)
Chapter 6	Emergency Procedures
Chapter 7	Limitations
Chapter 8	Maintenance/Warranty
Chapter 9	Army/Maintenance Fielding
Chapter 10	Update Parts List including replaceable external parts
Chapter 11	Reprogramming
Chapter 12	Desktop Assistant Software (Formerly called mission planning software)
Chapter 13	Tutorial
Chapter 14	Installation Drawings
Chapter 15	Difference Data
Appendix A	Crypto Logic Key Ordering Instructions (Updated)
Index	Added

The new TM went out via "pinpoint" distribution to all registered users. Are you registered? The TM is available through standard publications channels. In our next issue we will report on the links that you can use to download the TM electronically.

Georgia Field Office

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## **Support For Training The PLGR Tutorial CD**

The Georgia Field Office is developing a PLGR training aid that will be useful for refresher training at the unit level. It is a CD format and the "beta" version will soon be sent to subject matter experts for review. **We would like input from field training officers.** If you can participate by reviewing the pre-release PLGR Training CD please contact the Georgia Field Office.

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### **Checklist for PLGR Readiness:**

Of course you perform Preventive Maintenance Checks & Services (PMCS) on a regular basis and keep a supply of batteries on hand. But just as a reminder, here are the basic checks to keep your PLGR ready to go.

#### **1. Check for functionality and self test.**

If your PLGR indicates an internal fault, send it in for repair. If you have a PLGR that won't activate: Replace the battery, clean the battery contacts with an eraser, check for passivated battery by repeatedly pushing the "on" button. If it is still dead, send the PLGR in for repair. A nonfunctional PLGR does not support your mission!

And, don't forget the memory battery! In the bottom of PLGR is the cavity for your memory battery, a special 3.6V AA Cell that maintains user-entered information and almanac data when you are disconnected from external power and don't have a main power battery installed. The memory battery should be replaced annually and should not be left in the receiver for longer than one year.

2. Make sure the almanac is current. The PLGR requires about 15 minutes of operation with clear satellite signal access to download the full current almanac data. Without it, your PLGR will be slower to respond and function from a "cold start."

3. Check for current COMSEC key or be prepared to reload the current key.

A lot of units do not store PLGR with the key loaded due to local security policy. You should be prepared to load the key for proper PPS-rated mission performance (better accuracy and anti-jam protection) so check with your COMSEC custodian to be ready. Look at your TM to know which screen to check to confirm if your key is active.

4. Check the map datum to be sure it matches the map you are using!

5. Check your vehicle installation and or your battery supply.

Is the mount secure, the moving parts serviceable, the in-line fuse still good, the cables and connectors in place? If you operate handheld, do you have operating batteries? (BA-5800 or AA tray w/ supply of AA Cells.)

For more details review the "setup" instructions in your TM. There are 11 displays to check in setup (e.g. mode selection, coordinates, magnetic variation, datum etc.). Take a few minutes to refresh yourself on the choices and make sure your PLGR is set up for your mission!

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### **Where do we send GPS receivers for repair?**

All three primary Army receivers, PLGR, SAGR and CUGR go directly to their manufacturer support depots:

PLGR goes directly from your DSU to Rockwell Collins in Cedar Rapids Iowa.

SAGR and CUGR go directly from your DSU to Trimble Navigation Ltd in Sunnyvale California.

Other GPS sets including the AN/ASN-149(V), the AN/ASN-128B Doppler and the Embedded GPS Inertial aircraft sets utilize conventional government depot maintenance turn-in procedures.

The details for returning PLGR for repair were published in the Jan 2001 issue of Pathfinder which is available at the Army-GPS web site. You can also find guidance in Change 2 to the original PLGR TM or the new PLGR TM dated Apr 2001.

The details for returning SAGR and CUGR were published in their respective Support Plans. Note: the depot for SAGR/CUGR has relocated from Texas to California. If you need a CUGR support plan dated June 2001, contact Don Mulligan in New Jersey at (732) 532-6137.

Return procedures for all GPS receivers will be included in the Frequently Asked Questions (FAQ) section now being prepared for the Army GPS Web site.

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### **BA-5800 Main Power Cell**

In the recent past, the stock of NSN 6135-01-440-7774, the BA-5800A main power cell for AN/PSN-11 PLGR, was quite low and subject to backorder. No more, as of 24 September 2001, CECOM reports a positive stock posture so if you need them, submit your requisition today! Reminder: NSN 6135-01-440-7774 replaced 6135-99-760-9742 and you now get 8 batteries in each package!

CECOM Battery Management Office

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### **What is the correct Software version for PLGR?**

For most Army users, your PLGR should display either 613-9854-003 or 613-9544-008 when powered up. (The exception to this rule is the special application software used by Special Forces. They have either 613-9868-005 or -006.) If your PLGR shows any other version it is probably out-of-date and should be reprogrammed.

Is it important to have current software? Read the next article. If you return a PLGR for other repairs, the repair depot will automatically load current software.

New Jersey Office

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### **Field reprogramming:**

Most PLGR have been reprogrammed – but just in case you were under a rock for the last two years: The PLGR had a software glitch that in some cases allowed it to display position information with a “figure of merit” indicating high accuracy when in fact it was not accurate at all! You could be off the mark by hundreds of meters! The corrective software fixed the problem. A reprogrammed PLGR will display one of the correct software numbers listed in the article above. If you need help with PLGR reprogramming, contact your Maintenance shop or CECOM LAO as soon as possible.

The AN/ASN-175 CUGR aircraft GPS system is also being reprogrammed to correct operational software problems. Almost half of the CUGR in service have been updated to version 0102A. If you fly the UH-1 aircraft with CUGR and

have 0101 or 0102 software, contact us to schedule reprogramming.

New Jersey Office

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### **How do we get more PLGR?**

Due to the rapid growth in authorizations for handheld, vehicle installed and weapons system applications for PLGR, the Total Army requirement continues to exceed the available supply. The PLGR shortfall will only be resolved when deliveries of the next generation GPS handheld receiver, known as the Defense Advanced GPS Receiver (DAGR) begin in FY04. Until then, Headquarters, Department of the Army (HQDA) will control the available PLGR assets, directing PM GPS to field them to high priority applications. For equipment shortages reported through the Item Manager, CECOM reviews each requisition and recommends action for HQDA approval. In cases where units report PLGR in excess of current authorizations, the Major Command should cross-level assets to other subordinate units that may be short equipment.

Note: Unlike the receiver, PLGR accessories including external parts and batteries are stocked at CECOM or DLA and are available through Class IX standard requisition procedures.

New Jersey Office

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### **How About Some Information on Installing PLGR To Our High Mobility Multipurpose Wheeled Vehicle (HMMWV)?**

1. Hardware Kits: The Product Manager for Light Tactical Vehicles (PM LTV) at the US Army Tank and Automotive Command (TACOM) has

sponsored two installations kits that may be used to install the PLGR to HMMWV.

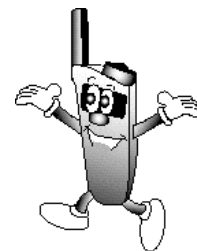
TACOM Part Number 57K3233, NSN 2590-01-420-4179 is designed for use in the HMMWV weapons carrier variants (M966/A1, M1025/A1/A2, M1026/A1, M1036) where the PLGR is mounted to the vehicle dashboard. Since these vehicles all have hard tops, the PLGR remote antenna is mounted to the roof with a screw.

TACOM Part Number 57K3242, NSN 2590-01-429-3007 is designed for use in the up-armored HMMWV M1114 where the PLGR is mounted to the inside of the windshield frame and a bracket (TACOM PN 12460300) attaches the remote antenna to the outside of the windshield frame.

There is no TACOM installation kit for soft-top HMMWV. TACOM Engineers advise the use of kit 57K3233 and the antenna bracket 12460300 for these vehicles.

2. Installation Instructions: For Part Number 57K3233 request TACOM Installation Instructions 12460210 and drawing 12460211. For Part Number 57K3242 request TACOM Installation Instructions 12460281 and drawing 12460282.

The instructions and drawings should be available from maintenance technical publications sources (e.g. digest articles or maintenance bulletins). If you can't get local support, contact our New Jersey Office



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## On-line Knowledge Center

The parent Army organization for PM GPS, the CECOM Systems Management Center (SMC) is setting up an online site to make information available about the PM shops in SMC. PM GPS is also putting together a Frequently Asked Questions (FAQ) section for the PM GPS web-site. Is there a GPS document you would like to see included in these on-line resources? Let us hear from you.

New Jersey Office

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## It's Your Choice: Push or Pull This Newsletter

You can electronically "pull" the Pathfinder from the PM GPS web page at your convenience. Each issue is posted at the website at about the same time the printed copy hits the mail. If you prefer, you can have the Pathfinder "pushed" directly to your email account: Contact our New Jersey Office to request email distribution.

If you prefer to receive the hard copy version, check the mailing label: If its not entirely correct let us know or maybe next time the postal service will return your copy to us marked "undeliverable." We get back about 50 copies of each newsletter and without action from the user, all we can do is delete the address from our mailing file. If you or someone you know used to get a copy in the mail and don't now, send us your complete current mailing address!

New Jersey Office

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## How to contact us



Los Angeles Office for  
PM GPS and Technical  
Management (TMD):  
DSN 833-0595  
CML (310) 363-0595

New Jersey Office for Army Readiness  
Management (RMD): DSN 992-4733  
CML (732) 532-4733

Georgia Field Office (GFO) for Joint  
Service Sustainment: DSN 468-3288  
CML (478) 926-3288

Or contact the Pathfinder editor via  
email address at front of newsletter and  
we will route your question to the  
appropriate office for response.

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## Who To Call?

For GPS integration  
assistance and new  
product information, call  
TMD.



For sustainment issues including help  
with software, supply, technical  
publications, accessory procurement  
and training call GFO.

For equipment authorizations, fielding,  
host vehicle installation and New  
Equipment Training call RMD.

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Not getting the **PATHFINDER** anymore? Postal authorities at some installations are cracking down on mail that does not have a “complete” street delivery address. As a result your copy of **PATHFINDER** might have been returned to us marked “incomplete address.” Without a practical way of reaching you, we can only delete you from our database and hope you resubmit your address.

If you are a deployable military unit, active or reserve, please contact us to provide a complete mailing address so we can resume mailing the newsletter to you! If you prefer to receive the email notice described below, say so!

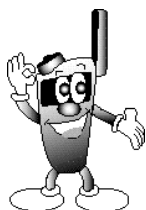
If you are an installation or TDA activity, a member of AMC, TRADOC or other government organization with an email account, please provide your email account and “**PATHFINDER request**” in the subject line. We prefer to send email notice to non-deployable readers to reduce the cost of printing and postage. You will receive an email notification when each issue is posted along with the URL link to our website so you can pull down the new issue at your convenience.

## PATHFINDER

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## FIRST CLASS



**IN THIS ISSUE:**  
*Repair Support for PLGR*  
*New TM for PLGR*  
*Installing PLGR to HMMWV*  
*And more...*